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ABSTRACT

The first section of this paper addresses the question of whether composition teachers should present heuristic models for students to assimilate or should attempt to elicit directly from students the tacit heuristics they already use. It suggests that creating heuristic models in the classroom has the advantage of teaching cooperative inquiry, and it describes how such models can be evoked directly from students. The second section provides a brief review of the literature on evaluating heuristic procedures, with emphasis on J. Lauer's concept of "metatheory." Discussed Lauer's three evaluation criteria of transcendency, flexible direction, and generative power. The third section describes a classroom experiment in which the composition instructor attempted to elicit heuristic models from students, using an inquiry approach that involved the following procedures: (1) range-finding, (2) categorizing questions, (3) defining categories and purpose, (4) comparing student categories, (5) sampling questions, (6) presenting new information, and (7) redefining categories and purpose. The last section concludes that teachers should be concerned less with trying to teach students the invention process and more with utilizing their own inventiveness in staging inquiries. (AEA)

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STUDENT-CREATED HEURISTICS

AND

WRITING INQUIRIES

BY

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I. Assimilation and Internalization of Models: Species of Imitation?

Like husbands and wives in marriages - for better or for worse - students assimilate their teachers' dependencies far more readily than their teachers' independence. That is, students will mimic a particular brand of intellectual activity, or ascesis, wherever a reward is offered for doing so. Some readers will be alarmed that the words "assimilate" and "mimic" are used here as if they had the same meaning. Very often in discussions about heuristic procedures, the words "assimilate" or "internalize" are used to connote a learning process allegedly deeper and more permanent than the process connoted by the word "imitation" (or mimicry) - but what is the real difference? Beyond a subjective feeling in the teacher, can we say we know what the difference is?

Whether we fully realize it or not, our preference for using the word "assimilate" to describe the transfer of heuristic procedures is a kind of apology for the very presence of those procedures. To exhort students to "assimilate" is to say, "Please imitate, but not rigidly or seriously - you know, with subtlety." Generally speaking, foisting such ambivalence on students may not be all that unhealthy. And, generally speaking again, students "imitate" not because they are inferior or lazy thinkers, or morally weak - grading constrains them to do so. Thus, when presented with a heuristic model to be assimilated, students must master the teacher's ambivalence; they must imitate without appearing to do so, and be as sophisticated as possible in showing <u>dependence</u> on the model. The

model may be a romantic metaphor (e.g., "Your mind grows into its thoughts the way a tree roots itself in soil"); it may be a set of repeatable steps leading to effective "guesswork," as in Young, Becker and Pike's tagmemic grid; or it may be Christensen's notation for the cumulative sentence. These are all "heuristic models". And in all of them, and others like them, we essentially reward whatever signifies dependence: the student uses romantic metaphors to frame his thoughts; the student treats a topic from nine or so tagmemic "perspectives;" or the student uses cumulative subordinate or coordinate sequences. To be sure, we can verify the presence of these in student writing. We can see when they have been utilized. But what can we say has been "assimilated," as distinct from "imitated"? In what meaningful, or possibly verifiable sense, can we say these models have been "assimilated"?

This is a thorny problem for heuristics. The current swell of interest in teaching the invention process might seem an absurd, laughable contradiction to those witnessing our struggle from afar - say, for example, in music or painting studios. For whereas teaching "writing" in the eyes of other disciplines might seem acceptably problematic, teaching "invention" is viewed as crumbling fig leaf masking our real intention: teaching "creativity," or the "origination" of ideas. Most of us know we cannot "teach" these things. We can perhaps facilitate them by providing students with interesting problems to solve. However, we ought <u>not</u> to harbor the notion that students permanently assimilate our heuristics simply because we have repeatedly used them. The process of origination is vastly more complex than that. Even if such assimilation of heuristics

could be reliably assumed to take place, there are also endlessly variable, highly individual tacit heuristics emerging from our students' minds. Students have already elaborated schemes for solving problems. We must take proper advantage of these schemes, and find out how they fit in with our prefabricated heuristics - if indeed they do. As Vygotsky has pointed out in his famous Thought and Language, "the two processes - the development of spontaneous and of non-spontaneous concepts - are related and constantly influence each other."[1] To simply assume prefabricated heuristics can be assimilated, and that they can guide or control cognition in the face of a particular rhetorical problem, does not take into account this relation between spontaneous and non-spontaneous concepts already elaborated in the student mind. A prefabricated heuristic may be quite beyond the student's cognitive development in this sense. It may ask for operations which are scarcely embryonic within the student's present cognitive strategies. Vygotsky, for example, has suggested that

> The adolescent will form and use a concept quite correctly in a concrete situation but will find it strangely difficult to express that concept in words, and the verbal definition will....be much narrower than might have been expected from the way he used the concept. The same discrepancy occurs also in adult thinking, even at very advanced levels. This confirms the assumption that concepts evolve in ways differing from deliberate conscious elaboration of experience in logical terms. Analysis of reality with the help of concepts precedes analysis of the concepts themselves.[2] (My underline.)

At first glance, this remark might seem to justify a heuristic like Young, Becker and Pike's tagmemic grid; after all, it asks students to "analyze

reality," but does not ask students to analyze the concepts on which the grid is founded. Or does it? In fact, the grid pre-supposes a "match" between its assumptions and the student's unconscious elaboration of spontaneous and non-spontaneous concepts - a "match" which may not exist at all.

The question I would like to raise in the following discussion is therefore this: should composition teachers present heuristic models (either romantic, classical or modern) under the unverifiable assumption that these models can be "assimilated," or should we, instead, attempt to elicit directly from students the tacit heuristics they already use? Before we introduce professionally researched heuristic models, shouldn't we have students externalize their own models, and compare a series of them with each other, in the classroom? Rather than forcing an ambivalent dependence on students, we might thereby make a virtue of their independence. An imported model tends in varying degrees to encourage dependence, and enforce unfortunate isolation on students. There is the risk that, between teacher and student, and between students themselves, imported models may impose their own obscure, inaccessible standard of excellence. Creating models in the classroom might have the added advantage of teaching cooperative inquiry. But before I describe how heuristic models might be evoked directly from students in the classroom, I would like to provide a little more theoretical justification for doing so.

II. Some Prolegomena for a Heuristic Methatheory.

I am looking for the sort of classroom activity implied by Flower and Hayes' recent work in "protocol analysis."[3] I am not sure, however, how universal their two part description of the "rhetorical problem" is, or how helpful the presentation of this description would be for beginning college writers. As they are careful to point out, "many writing problems ...are unique and require a writer to build a unique representation."[4] In the absence of such a printed, universal model or description for students to use, I am led to inquire into the teacher and the classroom as the alternative "living" model. As teachers, we are the ones who show - through our tacit strategies - how to confront unique writing problems. Our posture, our attitude towards this uniqueness will always have the most profound effect on a student's cognitive strategies - more profound, certainly than any specific description of the invention process we bring with us.

But what should guide our attitude? Janice Lauer recently proposed a "metatheory" for evaluating heuristic procedures. The criteria she outlines are extremely relevant to our attitudes and activities - and in a surprising, if ironic, manner, as I hope to show. Dr. Lauer's concern is to find constants by which to measure the "power" of a heuristic model, its "capacity."[5] This means, in part, examining broad philosophical and epistemological assumptions which the model silently imposes on the student. Recent studies by Susan Wells, James Kinney and Charles Yarnoff have also been especially concerned with these assumptions regarding

the nature of ascesis.[6] Dr. Lauer's objective appears to me to be somewhat more practical. On the one hand, she wants some criteria for measuring what makes one model more "teachable" than another. On the other, she wants to determine what makes one model more or less "usable," from the student point of view. These are certainly worthy objectives. However, it is difficult to determine exactly how Dr. Lauer arrived at her three principles of "transcendancy," "flexible direction" and "generative capacity." Are these culled from some particular, professionally researched heuristic she has in mind? Or are they the result of some empirical research into principles tacitly employed by students in the act of solving problems - like the work of Flower and Hayes in protocol analysis? What is it that makes these principles fundamental ones - if indeed they are?

Let me say, immediately, that I suspect Dr. Lauer's principles are fundamental, but in ways Dr. Lauer has not perceived or described. Before Dr. Lauer's metatheory for evaluating models can be completed or appreciated, the assumptions students already possess must be elicited and explored. As I indicated in Part I of this paper, student assumptions about how their minds work, or how they identify and solve problems, cannot be overlooked as if they did not exist. If we wish to lay down a valid "metatheory" for models which is truly fundamental, we must do more than compare models with each other (apparently what Dr. Lauer has done). We must see models in their developmental aspect, from the student point of view. Flower's and Hayes' protocol analysis constitutes, I think, a

better route to such a metatheory, because it takes seriously student assumptions and tacit knowledge. Unfortunately, though they claim that "the ability to explore a rhetorical problem is eminently teachable," they do not explain how students' tacit strategies can be influenced, or what the role of the teacher may be in exerting this influence.[7]

Specifically, we need to know how to help students to shape and externalize the principles they spontaneously use in the absence of a prefabricated model. This is not an easy thing to do. But it may well be that the capacities of our preferred textbook model would be of more use to the student who has attempted to analyze, then revise the workings of his or her own invention process. I would like to suggest that the three criteria Dr. Lauer proposes for evaluating a heuristic model might also be profitably applied to the teacher's heuristic-eliciting activity in the classroom. That is, the classroom should embody "transcendancy," "flexible direction," and "generative capacity" when bringing students to a more sensitive awareness of their tacit strategies. Let me now examine Dr. Lauer's criteria in terms of their presence in the classroom activity. Then I will describe one classroom experiment which directly involves students in the emergence of these criteria.

(1) Transcendancy. Dr. Lauer states that a heuristic

> model is transcendant or non-data conditioned if writers can use it in a wide variety of writing situations. Its operations or questions.... do not arise from (the subject). A transcendant model is more capable of being internalized, of becoming a habitual guide in the writer's inquiries, because it can be used repeatedly from one subject to another. [8]

There are a number of questionable assumptions here. For instance, we have no proof that transcendant models are more capable of being internalized - more capable than what? Any model can be used repeatedly, so how is one to know when such repetition signifies "assimilation," let alone transcendant assimilation? As I suggested earlier in this paper, we grade what we can visually verify, what is demonstrably imitated. Moreover, given the uniqueness of every writing problem, the very notion of "repeatability" conflicts somehow with the practical transcendance we want students to achieve. Thus, I would suggest that this ideal of transcendancy in relation to a printed model is altogether ambiguous. The ultimate seat of transcendance, as a virtue which students can nurture, lies within themselves - or, better still, in the relationship which develops between teacher and student with respect to a unique writing problem. Dr. Lauer, by contrast, sees virtue in the fact that with

> a transcendant model, teachers do not have to spend time teaching new models. Nor do students have to devote energies to learning new models rather than using one. 9

This, it seems to me, is exactly the opposite of what should be our goal in teaching invention. We should spend time in class teaching - eliciting - new models from students, and in this sense students should devote their energies to "learning" new models. They must become aware of how different, how discrete every writing problem can be. In short, "transcendancy" in a model, even if it were possible to verify such a criteria, does not necessarily mean "transcendancy" will appear in students.

(2) Flexible Direction. Dr. Lauer defines "flexible direction" as follows: "A model has flexible direction if it specifies a clear sequence of operations," yet allows for "recursiveness;" it "neither traps students in mechanical steps nor abandons them to trial-and-error meanderings."[10] Here also I see more benefit in applying this criteria to what teacher and students do in concert. The good teacher, in approaching a particular writing problem, should elicit "flexible direction" from students in the inquiry process. In the absence of a prefabricated model, the teacher remains free to continually reconstruct - from class to class and from student to student - various types of models. This means listening to students' tacit rhetorical purposes, and integrating these purposes into a larger, but not yet fixed or systematized frame of reference. In other words, the tacit strategies of students must be picked up by the "tacit system" of the teacher, but in such a way that student strategies are not distorted. The teacher practices "recursiveness" in this way most effectively, by relying on its presence in the very exchange of information. Finally, if each student is encouraged to present his or her personal model to the whole class, the disjunctions, contradictions and similarities between these models become assets - not drawbacks. By comparing their models, students will practice "recursiveness." They will come to see the larger, more "transcendent" system to which their model belongs. They will see how, for instance, whereas their model contains only one operation per step, another student's model telescopes two or three operations per

step. Awareness of these differences is real "flexible direction," and is co-emergent with a model - not inside the model itself.

(3) Generative Power. This is Dr. Lauer's last criteria for a good heuristic model. Specifically, the model should engage "the writer in a range of operations that have been identified as triggers of insight: visualizing, analogizing, classifying, defining, rearranging, and dividing."[11] This is interesting in view of the recent attacks made on the traditional modes of discourse, many of which were designed to engage students in exactly these "triggers of insight." How would an ideal heuristic model bring forth these operations any differently than the old modes, e.g., compare/contrast, analogy, etc., which are still the main heuristic devices in most textbooks? A clue to Dr. Lauer's meaning might be provided by the following additional remark she makes: "The most highly generative models would be those which claim to leave no dimension of the subject unexamined."[12] This criteria, I think, is fraught with even more problematic - if not self-contradictory - assumptions. First, how can we define, a priori, what we mean by "dimension"? The "dimensions" of a problem or subject, if we are engaged in genuine inquiry and not merely a facsimile, cannot be known beforehand. Dimensions emerge as the counterparts of a heuristic; they are not actually in the heuristic itself, or delineated by it. We cannot presuppose any heuristic model has perfect apperception of these dimensions. A "non-data-conditioned model" further presupposes discovery processes based on what Stephen Toulmin has called "field-

invariant" logic.[13] Whether or not such logic exists is at best controversial. However, this does not mean we are without the practical means (through "field-dependent" logics), to increase students' ability to vary perspectives, approaches and strategies.[14] It is a question of where we first locate this problem - in the teacher's ability to elicit, compare and refine tacit student strategies, or in some prefabricated model? Again, I think the teacher's ability to elicit is the key. Moreover, if we tell students a particular heuristic is "non-data-conditioned" and "leaves no dimension of a subject unexamined," I think we are guilty of stealing the adventure of inquiry right from under our own and our students' noses.

III. A Suggestion for Teaching: Steps in the Emergence of Student-Created Heuristics.

With these prolegomena in view, I wish to emphasize that prefabricated heuristic models do have an important role to play. It is, however, a secondary role, a refocusing of what the teacher would do himself or herself. To illustrate, I would like to describe a recent classroom experiment in which I attempted to elicit heuristic models from students. I wanted to find, in my own informal procedures to help students develop topics, principles akin to those Dr. Lauer describes - or else discover some solid ground for rejecting those principles.

The experiment began when I brought two color prints by William Blake to my Freshman class, Elohim Creating Adam and God Judging Adam. I concealed from students the titles, the artist's name, nationality and

the period in which the works were completed. Students only knew about the prints what their eyes and personal associations might tell them. None of the students had seen them before.

Step (1) Range-Finding. Students were asked to make up a random list of at least twenty-five questions about the pictures. I deliberately avoided specifying any order or categories or boundaries. Anything the students wished to ask was permitted. This required an entire class period. In the second class, students were asked to exchange these lists of questions with each other, and to write down any questions they themselves had not asked. The lists were returned to the original creator.

Step (2) Categorizing Questions. Students were then required to place all their questions in at least two (2) different categories, and to make up a brief title for each. Students generally came up with three categories, as one might predict - one for each picture as a separate object, and one for both. Many titles were simple, for example, "First Picture," "Second Picture," and "Both Pictures." To be sure, such categories do not reflect conceptual innovation. Nor do they reflect Dr. Lauer's criteria of "transcendancy," "flexible direction," or "generative power". Students merely followed the path of least resistance, because they had no guiding purpose or aim for their questions. Typically, students try to find their audience, as well as their aim, in some specific directions offered by the teacher. When these directions are lacking - and I deliberately avoided providing any - students must focus upon the assumptions inherent in their categories. That is, these

assumptions must become their "teacher" in relation to the pictures. Thus, I next asked students to define (orally), as best they could, the purpose of each of their categories.

Step (3) Defining Categories and Purpose. Just as a question focuses a "known unknown," and brings students tacit knowledge to bear on the pictures, so categories contain in germinal form the student's audience and aim. Making categorical distinctions among kinds of questions - once students perceive this is different from merely distinguishing objects - involves students in the tension between audience, subject matter and aim. Thus, from their own initial reaction to the pictures students elicit a rhetorical purpose. Admittedly, they may use their own language to explain this purpose; what they say may sound arbitrary in relation to the teacher's knowledge of discourse theory. However, the important thing here is that they publically test their purpose, and give a direction to their questions that would be meaningful to others in the class. In addition, this oral process of defining categories forced students to tap their own spontaneous concepts, and to verbalize the process by which they arrived at them. For most students this was very difficult, so following class discussion I asked them to write down the purpose of each category in a sentence or phrase, with interesting results. As Vygotsky noted, students could use a concept in broad and significant ways, but could not effectively define it, or explain why it was necessary.[15] I will discuss some specific student examples of this failure in Step #7 below.

Thus, during this stage I ask questions like: What seem to be typical directions for questions? Which categories are most interesting to you, and why? What other categories might we create? and so on, without injecting my own opinion about which categories are more "flexible," "transcendant," etc.

Step (5) Sampling Questions. This is perhaps the most exciting stage for students. I ask them to read aloud questions from each of their categories, then explain how they would answer them. Not only were students surprised at the range and diversity of questions, but charged disagreements developed about the very content of the pictures themselves. Students asked, for instance, in the picture God Judging Adam, whether the standing figure (Adam) was a man or a woman? And were there two horses shown, or only one? In Elohim Creating Adam, is the prone, lower figure a man or a woman? And is the sun (if it is the sun!) rising or setting? Students discovered that questions like these were tied to whole chains of private assumptions and arguments. How could they prove, without the knowledge of the titles or other information, which figures were male, and which female? Adamant students maintaining one position or the other recited to their fellows a series of discrete perceptions and pictorial elements, as if these would "justify" what they saw. Students who "clearly saw" one figure as a man were flabbergasted by those who demanded this absurd sort of proof. "Of course it's a man, can't you tell?" The whole problem of appearance versus reality emerged: Do any of us see the same pictures? What can we all accept as "facts" or "reality" in the

pictures, needing no proof?

As the arguments and discussion intensified, students used surprisingly sophisticated logic and rhetoric because they had a personal stake in their perceptions. They felt the social significance of seemingly "simple" claims. Each invoked his or her tacit heuristic, while I withdrew out of the line of fire. Interestingly, during discussion, students began to vocalize more complex questions. For example, "Why did the artist make it difficult to tell if the standing figure is male or female?" Questions like this emerge directly from students' contact with their own assumptions, not from the teacher's assumptions or from an imported heuristic.

Step (6) New Information. Before student categories became too elaborate, I revealed the titles, artist's name, nationality and date of the prints. Had I told the students these things at the beginning, students might have concluded no real inquiry was needed. Naturally, this new information had a drastic effect on their newborn heuristic. In particular, questions about the artist's relation to his work, his society, religious beliefs, and so on, emerged. Other students asked questions about the cause of their personal reactions to the work, whether positive or negative. New questions led to the formation of entirely new categories.

Step (7) Redefining Categories and Purpose. Unlike the categories created in Step 3, above, these new categories reflected the beginnings of "transcendance," "flexible direction" and "generative power." Many

students focused the dissonance between what Hayakawa calls "reports" and "inferences."[17] For instance, some categories listed questions requiring little more than group consensus (or simply pointing to the picture) for verification of the answer, e.g., "Is the background of God Judging Adam yellow?" Other categories, however, focused questions depending on more complicated verification and evidence, e.g., "In Elohim Creating Adam, is Elohim pushing Adam away from him?" The class focus shifted from mere "report" type questions to these "inferential" questions. Again, as in Step 3, I found students could use a concept to design a category, but could not effectively define that concept, orally or in writing. Take, for example, student 4032, a basic writer. At first glance, it appears that this student wanted to investigate the difference between the artist's intention and the resulting work, and that she saw this difference expressed in time, in a "past" "present" "future" sequence. But it is hard to perceive this idea emerging from her questions. Only when she was asked to write out the "purpose" of her categories did this tacit heuristic emerge, though the "future" category is essentially a re-statement of the "past" category. Interestingly, her paper (see sample) is written with an expressive aim, and follows the past, present and future pattern implied in her heuristic. The picture touched off poignant memories and feelings about her religious upbringing, and the relation between these memories and feelings, and elements in the pictures, is what she wanted to write about.

In the process of creating her heuristic, then, her rhetorical purpose shifted from generally expository (what is the relation between artist and work?) to expressive (how do these pictures relate to me?) Her use of the "past," "present," "future" heuristic shifted accordingly.

Not all students used their heuristic to supply an organizational pattern in this way. Some merely focused on one category, or on a few closely related questions. Student 4034, an adult about 40 years old, was better able to explain the concepts behind her categories. She based her paper largely upon the questions under "meaning," and a more or less expository paper was the result.

To summarize, the goal of this successive questioning, categorizing and re-questioning is to compel students to exercise their native "transcendence," "flexible direction" and "generative power" without depending on prefabricated heuristics. Students are practicing the "virtues" which an ideal heuristic would ostensibly force them to "assimilate." They evolve their own categories, define them so they are meaningful to others, and modify them to meet the dimensions of the problem as they see it. Admittedly, student categories may seem arbitrary to the teacher; but it is finally the teacher's responsibility to bring the student to <u>see</u> this arbitrariness as developmental, not final: every student category contains the potential for becoming less arbitrary and more rhetorically purposeful. It may also be objected that student categories developed for these Blake pictures will probably not be applicable to another problem. True. But that does not mean the

student's ability to vary perspectives has not been improved. Again, only a succession of different types of writing "inquiries," each requiring the student to evolve his or her own heuristic, would cause more transcendent, flexible and generative student heuristics to appear. (For example, following this exercise, I asked students to generate questions about the term "hostility," then to categorize these questions, following the same procedures outlined here.) Certainly students ought to be encouraged to compare a series of their heuristics to establish some common elements in their invention and composing process. Teachers might collect these for longitudinal studies and research. At the very least, student-created heuristics might provide the student with a basis for understanding and using a textbook heuristic, like Young, Becker and Pike's tagmemic grid, or some other.

IV. Conclusion

We generally do not know how to teach the invention process. We expect "something to happen" between the announcement of a topic and the recommendation to give that topic a form (e.g., use a mode of development). We assume that there is some parallel between a mode of development and the students' inner invention process, as if the coordinate or subordinate structure of a paragraph duplicated in abstract a cognitive process. Recent research shows this plainly to be a false assumption. And the less we know about invention processes - and how to make these processes more amenable to conscious and deliberate control - the more we tend to harp egregiously on "form, detail, elaboration and

development." Or we speak of the "assimilation" of a heuristic, rather than its emergence from the student mind.

We need to teach what it means to inquire about something, to go from what we know to what we don't know. This problem has to be carefully separated from the problem of content, which may be either concrete or abstract. Students are not motivated, generally speaking, by "content" any more than they are by artistic, elaborative forms (e.g., modes of development). I think it is when we perceive students are not motivated by the elaborative forms we present that we turn to "content"; we vaguely feel the problem is the isolation and detachment of the topic itself, its "irrelevance." We criticize ourselves with the leitmotif, "If only we had content, like history or chemistry or something." What we really need to face is not whether we do or do not have legitimate content. Rather we must face the fact that we have not enabled students to inquire, and have not made inquiry a real, wholly engaging activity.

I am not suggesting composition classes should become solipsistic, epistemological laboratories which force students to investigate how they think, or how their minds work. Certainly any deliberate thinking, from one point of view, can be labeled "introspective:" doesn't <u>any</u> thinking ask the student to distinguish what he or she knows from what he or she doesn't know? Whether we are dealing with a student's personal idea of justice or the anatomy of frogs, the thinking is introspective, private, and lonely. Students cannot escape some degree of intro-

spection, no matter what the task. Over dependence on forms, modes, etc., and their "artistic" importance as devices of elaboration, or over dependence on the academic, social, political, etc., importance of the topic itself - these are the real negative dependencies in the composition classroom. To these extremes we give away what should be our inventiveness in staging "inquiries."

FOOTNOTES

1 L. S. Vygotsky, Thought and Language, (Cambridge: M. I. T. Press, 1962) translated by E. Haufmann and G. Vakar, p. 85.

2 Ibid., p. 79.

3 Linda Flower and John R. Hayes, "The Cognition of Discovery: Defining a Rhetorical Problem," College Composition and Communication, (February, 1980), pp. 21-32.

4 Ibid., p. 25.

5 Janice Lauer, "Toward a Metatheory of Heuristic Procedures," College Composition and Communication (October, 1979), pp. 268-269.

6 Susan Wells, "Classroom Heuristics and Empiricism," College English, (December, 1977.

James Kinney, "Classifying Heuristics," College Composition and Communication, (December, 1979).

Charles Yarnoff, "Contemporary Theories of Invention in the Rhetorical Tradition," College English, (January, 1980).

7 Flower and Hayes, "The Cognition of Discovery," p. 31.

8 Lauer, "Toward a Metatheory of Heuristic Procedures," p. 268.

9 Ibid., p. 268.

10 Ibid., pp. 268-269.

11 Ibid., p. 269.

12 Ibid., p. 269.

13 Stephen Toulmin, The Uses of Argument (Cambridge: Cambridge University Press, 1958). See Chapter One.

14

Toulmin, op. cit. Toulmin is seeking the constituents of "field invariant" logic in a jurisprudential model. His heuristic (see Chapter III, "A Layout for Arguements") is intended to provide students with a method of proving and defending claims, not "discovering" them. So far as I know, his heuristic has not been studied as a device for undertaking inquiry, finding and varying perspectives, or identifying "known unknowns." For an interesting textbook application, see Douglas Ehninger, Influence, Belleve and Argument: An Introduction to Responsible Persuasion. (Glenview, Illinois: Scott, Foresman and Co., 1974).

15

Vygotsky, op. cit., p. 79.

16

Vygotsky, op. cit., pp. 88-89.

17

S. I. Hayakawa, The Language in Thought and Action (Harcourt, Brace, Jovanovich, 1963).

NAME: 4031

TITLE: Artist

PURPOSE: To give reader some information about artist. May be helpful in understanding paintings.

QUESTIONS:

What were Blake's religious beliefs? If not conventional, how were they regarded?

Did Blake's paintings sell well during his lifetime? If not, why not?

What was his attitude toward his work?

What was Blake's personal life like? What type of personality did he have?

Was Blake's work noticably "different" from that of others of his time?

TITLE: Works

PURPOSE: Answer questions about 2 pictures

QUESTIONS:

Are "Elohim Creating Adam", and "Elohim Judging Adam" a set or part of a set?

Why did Blake paint them?

Were they well-known or popular during Blake's lifetime?

Why did Blake use "Elohim" instead of "God"?

TITLE: Comparisons

PURPOSE: Compare & contrast Blake & his works with other artists of the time & their works.

QUESTIONS:

Who were some famous religious artists and/or writers of the time.

How did they regard Blake? (and his work)

How did the public regard Blake in contrast to them?

How did Blake's work differ from that of others?

NAME: 4032

TITLE: Past

PURPOSE: What the artist has in mind for the paintings.

QUESTIONS:

Why does the artist use animals in each painting.

Why does Elohim take a different form in each of the pictures?

Why did Blake place Elohim in a circle in both pictures?

TITLE: Present

PURPOSE: What is actually in the paintings.

QUESTIONS:

Why is a snake wrapped around Adam?

What does Elohim have on his lap in the second picture?

Is Adam in pain in the first picture?

TITLE: Future

PURPOSE: What the artist meant to say in the painting.

QUESTIONS:

How does the artist view God?

Why did the artist chose to paint religious pictures.

Why does the artist call God Elohim?

NAME: 4033

TITLE: Producer

PURPOSE: To ask questions and explore the artist Mr. Blake.

QUESTIONS:

1. Are these paintings the only subject matter Mr. Blake painted?
2. Was Mr. Blake a religious man? If so, to what extent?
3. Is this Mr. Blake's own view of the Creation and judgement of Adam? If not, where did he get this view?
4. What kind of reactions to this painting did Mr. Blake receive?

TITLE: Product

PURPOSE: To explore the paintings and the reasons they were painted as they were.

QUESTIONS:

1. What type of media was used to paint these?
2. Why do the figures in "The Judging of Adam" have no color?
3. Why, in the "Creation of Adam", does God have wings?
4. Why is the sun in the background of both paintings?
5. Why is Elohim framed by circles in both paintings?

TITLE: Effect

PURPOSE: To find out more about how well the paintings convey their meaning.

QUESTIONS:

1. Would it be easy for anyone to identify the character as God and Adam?
2. Is the sequence of the paintings clear to anyone?
3. How do the colors of the paintings affect someones feeling?
4. What possible meanings could the snake convey in the "Elohim Creating Adam" painting.
5. Do the snake, horses, fire and book seem to serve any symbolic purpose?

The book of Genesis tells us that in the beginning God created the heavens and the earth. Seeing that this was good, God then created man in His own image. Man or Adam, as we know him tasted the fruit of knowledge; therefore now knowing good and evil, he was banished from the Garden of Eden, to till the ground from which he was taken. William Blake's illustrations of Elohim - a Hebrew word for God - creating Adam and Elohim judging Adam, are derived one would assume from the first three chapters of the book of Genesis. However, these illustrations depicting the creation of man as well as his imminent judgement are definitely different from the traditional religious concept of God and Adam. These contrasts and Blake's purpose behind them is what we shall explore in the ensuing context.

Man is born! Traditionally God, an imposing figure of a man, with a flowing white robe, long white hair, full beard, stands benevolently looking at His creation. Proudly observes His perfect masterpiece - Adam - much as a sculptor would admire his work shaped from a piece of clay. In the background, the vivid yellow sun is rising as if in proclamation of the dawn of man. Everywhere in colorful array is God's paradise for Adam; lush tropical foilage, beautiful birds, and animals of many kinds. All this gives the impression of a joyous and wonderful occurence. Blake's illustration of Elohim creating Adam, in direct contrast, gives one the feeling of great sadness and depression. God has the grotesque appearance of a mythical winged creature, whose face is showing confusion, as though He is thinking, "What have I begun?" Adam also is bizarre in his appearance. Laying helplessly upon what appears to be a huge black rock, his face contorted, legs ending in hoofs rather than feet, while his entire body is encircled by a large, ugly serpent. Dull, heavy color, rather than vivid hues gives an even sadder tone

to the picture than the figures themselves. The contrasts are startling to the traditional eye.

God's judgement of man is also traditionally the ousting from paradise. Adam and Eve having tasted the fruit of knowledge - the apple - are now banished forever from the Garden of Eden. Traditional visual concepts usually show Adam and his consort outside the gates of paradise in a barren land. God is symbolized as bright rays of sun coming down on Adam and Eve as they in their shame try to cover His perfect handiwork. While behind them is the lush tropical foilage, brightly plumed birds, many different jungle animals, and always in the background hanging from the apple tree - the bright green leering serpent. Contrast to the traditional view is again evident in Blake's visual concept of Elohim judging Adam. The Paradise from which man was banished is not shown. Instead, a fiery chariot pulled by a large horse with his mane afire is the background. A stern, overpowering, colorless, God is sitting atop the chariot pointing a long bony finger at a submissive, equally colorless Adam. What colors there are are dull, muted, the fire obvious only because of its lines. However, the most startling contrast is the fact that two of the most important figures in the traditional view are missing - Eve and the serpent.

In conclusion, having observed some of Blake's works besides Elohim creating Adam and Elohim judging Adam; the artist's prevailing purpose appears to be symbolism and imagination. The agony on Adam's face in both illustrations seems symbolic of what man would have to endure on this earth upon which he was thrust. Also the serpent which encircles Adam's body in the creation drawing is what in later pictures Blake calls the serpent of materialism. Perhaps he was trying to show that this was one of man's many burdens

in this world. Dull, dark hues, as well as what could or could not be the sun in the background may all be symbolic of Blake's interpretation of a very tragic ugly world. Imagination is strongly realized in his depiction of God. Blake had been quoted as saying that our Creator was a cruel Being and his visual concept of God shows his imagination taking this to task. Observe the grotesqueness of God's form and face in the creation picture as well as his severe countenance in His judgement of Adam. Is this Blake's warning to others that God is indeed cruel and unjust? One can only surmise that it is. Blake certainly through his symbolism and imagination in these works has strongly opposed the traditional viewpoint that - - - - God is in His heaven and all is well with the world.

Describing Blakes paintings is like telling about the first fifteen years of my religious upbringing, which consisted of God fearing teachings. In the judgement painting, the fear of God is most prominent. God sitting on a firery chariot, pulled by a firery horse, pointing at poor, ashamed, humilated Adam. When I look at this kind of picture I can only say, "Fear the Lord." There is no doubt that Adam was wrong, but Elohim is like a cat and Adam the poor mouse. In my book, God should not of even been in the picture; the ratio is all wrong. It is like trying to put a needle in the same picture as the sun; you can't do it without the sun looking much too small. This picture makes me want to jump into it and knock God out and help Adam escape. Is this anyway to think of God, our creator? I think not, but this was the way I was raised. Oh they also taught me to love God, but how can you really love someone you have always been taught to fear. When I was young this never bothered me, but as I grew older and wiser I began to question my religion; should I really be afraid of him? How can someone who has created us in his own image be the ogre I was raised to think? As a child I was in constant fear of going to hell or God striking me dead. As a young adult I was torn between needing to love God and not being able to love the God I had come to know, so I dismissed him. I decided the easy way out was to believe in no God. This proved to be very valuable in erasing my first impression of God, and started the creation of a God I could not only love but also respect and live with; because of this I am at peace with myself and God, but I am not so unemotional that when I see painting like

Blakes that I don't feel all the repression I had to live through, the pain, the suffering, the nights I cried myself to sleep afraid to speak of my fears.

As I created my own impressions of God, I had to change a few things that were taught in the Bible, one of which was that man is born bad, with original sin. As a child I was always taught that I was evil and that I had to suffer alot to keep this evil from coming out. Well I never felt bad or evil, so when I turned from my religion and sort of created my own, I decided that man is basically good and is only created bad. In the painting of the creation it reminds me of this old concept that man is evil. The snake wrapped around Adam, I believed is a symbol of the devil and the evil that possesses man. The picture shows to me that without God's help and guidance our evil nature will devour us. As the snake seems to be doing. I don't agree with this way of thinking. I can not believe that God is there all the time, if he is there at all. I believe that the God we have on earth is the same God who created the universe, and therefore I believe that there are many other earth like planets out in space who probably believe in God too. So if God is there too and here also, how can we expect him to catch us everytime we fall. Well some people might say he left the ten commandments to guide us, but isn't the ten commandments something we already knew. This kind of thinking makes me think that God is the master and we are his playthings, able to punish at will; he is also the one who has made up the rules for us to live by. My question is how can God, a spiritual being, make up rules for a human to live by? Why should God want to do that, so we can play out his little game. I don't believe that God is a game-master, checking for broken rules, but that God is the supreme being and gave

us during the creation the necessary rules to live by, so in fact the rules our not on paper, but in ourselves, and instead of turning to the Bible for answeres, turn to ourselves for we were given the answers in the creation.

Blake has told the stories of the Bible in his paintings, I don't mean to discredit the Bible, because it is probably the most valuable book on earth; but I think that it was meant to reveal the universe; but it was told to illiterate people who could not comprehend it, so to help to explain the teachings they used stories of the time, but it is the time to update those stories. I believe that if we updated the stories in the Bible we would find a much more loving and understanding God.